

### **Amendments To The Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

1. (currently amended) A method of diagnosing attention deficient-hyperactivity disorder (ADHD) in a human patient comprising administering to a patient a labeled dopamine transporter ligand and assessing the amount of labeled dopamine transporter ligand that is bound to dopamine transporter in at least one region of said patient's central nervous system, wherein an elevated level of dopamine transporter in said patient is indicative of ADHD.
2. (original) The method of claim 1 wherein said assessment is by PET or SPECT imaging.
3. (canceled)
4. (currently amended) The method of claim 12, wherein the method further comprises the step of comparing the amount of labeled dopamine transporter ligand that is bound to dopamine transporter with a control.
5. (currently amended) The method of claim 13, wherein the dopamine transporter ligand comprises a compound that binds to the dopamine transporter.
10. (currently amended) The method of claim 13, wherein said ligand comprises [<sup>123</sup>I]altropine and said assessment comprises imaging by SPECT.
14. (original) The method of claim 1, wherein said at least one region of said patient's central nervous system comprises a portion of the brain.

15. (original) The method of claim 14, wherein said portion of the brain comprises the striatum.

16. (original) The method of claim 1, further comprising administering to the patient a labeled dopamine transporter ligand, the assessing step comprises assessing dopamine transporter availability, and the method further comprises comparing dopamine transporter availability with the dopamine transporter availability in a control, wherein a higher dopamine transporter availability in said patient is indicative of ADHD.

17. (original) The method of claim 1, further comprising administering to the patient a labeled dopamine transporter ligand, the assessing step comprises determining dopamine transporter binding potential and the method further comprises comparing dopamine transporter binding potential with the dopamine transporter binding potential in a control, wherein a higher dopamine transporter binding potential in said patient is indicative of ADHD.

27. (currently amended) A method of determining whether an individual has a heightened probability of having ADHD, the method comprising: administering to the patient a labeled dopamine transporter ligand and assessing the amount of labeled dopamine transporter ligand that is bound to dopamine transporter in at least one region of said patient's central nervous system; and comparing said patient's dopamine transporter level to a normal dopamine transporter level, wherein a higher than normal level indicates a heightened probability of having ADHD.

28. (canceled)

29. (currently amended) The method of claim 27, wherein the dopamine transporter ligand comprises a compound that binds to the dopamine transporter.